DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-009587
Date Inspected: 05-Oct-2009

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 700
OSM Departure Time: 1900
Location: Shanghai, China

CWI Name: Chen Xi

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: OBG Crossbeams

Summary of Items Observed:

On this day CALTRANS OSM Quality Assurance Inspector (QA) Steve Hall was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

OBG CROSS BEAM CB1

This crossbeam has been loaded on the ship.

OBG CROSS BEAM CB2

Caltrans QA coatings inspector Mr. James Lumley was present when this crossbeam was loaded onto the ship. Mr. Lumley brought it to this QAs attention that three (3) padeyes appear to have been broken off of the SPCM side panels of this crossbeam while being loaded. Mr. Lumley shared several photographs of this issue with this QA. This crossbeam was loaded onto the ship on 10/03/09. This QA is unable to gain access to this crossbeam at this time in order to confirm the locations and to visually inspect the affected areas. Attached are two of Mr. Lumleys photos of two of these locations.

OBG CROSS BEAM CB3

This crossbeam has been loaded on the ship.

OBG CROSS BEAM CB4

This QA observed that no significant work was being performed on this crossbeam during the time QA was present.

OBG CROSS BEAM CB5

This QA observed that no significant work was being performed on this crossbeam during the time QA was present.

OBG CROSS BEAM CB6

This QA observed that no significant work was being performed on this crossbeam during the time QA was present.

OBG CROSS BEAM CB7

This QA observed that no significant work was being performed on this crossbeam during the time QA was present.

OBG CROSS BEAM CB8

This QA observed ZPMC qualified welding personnel identified as 070007 perform SMAW welding on weld joint identified as CB202G-020-068. ZPMC QC identified as Mr. Zhou Jie was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-P-2112.

This QA observed ZPMC qualified welding personnel identified as 053742 perform FCAW welding on weld joint identified as FB204-017-054. ZPMC QC identified as Mr. Zhou Jie was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-T-2231-B-U2-F.

This QA observed ZPMC qualified welding personnel identified as 053609 perform FCAW welding on weld joint identified as FB204-008-019. ZPMC QC identified as Mr. Zhou Jie was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-T-2231-Tc-U4b-F.

OBG CROSS BEAM CB9

This QA observed that no significant work was being performed on this crossbeam during the time QA was present.

OBG CROSS BEAM CB10

This QA observed that no significant work was being performed on this crossbeam during the time QA was

present.

OBG CROSS BEAM CB11

This QA observed that no significant work was being performed on this crossbeam during the time QA was present.

OBG CROSS BEAM CB12

This QA observed that no significant work was being performed on this crossbeam during the time QA was present.

OBG CROSS BEAM CB13

This QA observed that no significant work was being performed on this crossbeam during the time QA was present.

OBG CROSS BEAM CB14

This QA observed that no significant work was being performed on this crossbeam during the time QA was present.

OBG CROSS BEAM CB15

This QA observed the contractors Quality Control (QC) Ultrasonic Testing (UT) technician testing Fracture Critical Welds (FCW) identified as CB202C-015-001 and 004. The technician did not appear to be scanning the welds in a manner compliant with the specified procedures in AWS D1.5 2002. The technician appeared to be using scanning pattern B and C only. AWS D1.5 2002 section 6.19.6.2 states “All butt joint welds shall be tested from each side of the weld axis. Corner and T-joint welds shall be primarily tested from one side of the weld axis only. All welds shall be tested using the applicable scanning pattern or patterns shown in Figure 6.7 as necessary to detect both longitudinal and transverse flaws. It is intended that, as a minimum, all welds be tested by passing sound through the entire volume of the weld and the HAZ in two crossing directions, wherever practical”. Figure 6. 7 indicates that scanning patterns A, B, C and E are required for this type of joint. This QA notified ZPMC QA identified as Mr. Zhang Wei and ABF representative identified as Mr. Mike Williams of the above mentioned issue and that an incident report would be generated. A video of this technician performing the testing can be viewed on the Caltrans server under “Team OBG” file name “UT Video_10-05-09”. This QA noted that the technician marked three areas on weld joint CB202C-015-001 suspected to be weld cap indications, to be repaired by grinding and re-tested.

OBG CROSS BEAM CB16

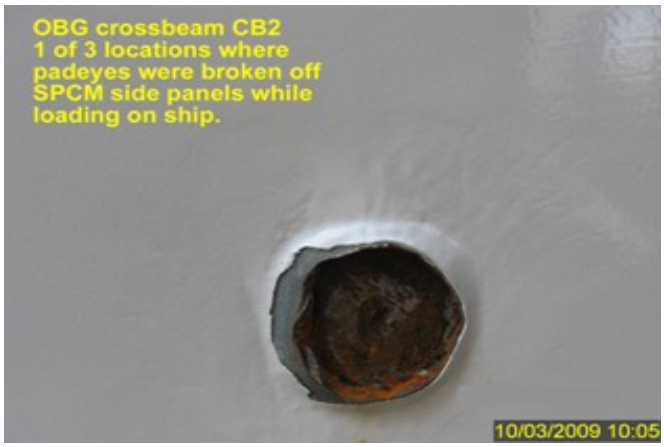
This QA observed ZPMC qualified welding personnel identified as 217185 perform FCAW root welding on weld joint identified as CB202C-016-003. ZPMC QC identified as Mr. Zheng Zhi Wei was present to monitor the welding process. The welding parameters as measured using QC’s calibrated instruments appeared to be in general

compliance with WPS-B-T-2231-B-U2-F.

This QA observed ZPMC qualified welding personnel identified as 215248 perform SAW welding on weld joint identified as CB202C-016-002. ZPMC QC identified as Mr. Zheng Zhi Wei was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-T-2221-B-L2c-S-2.

This QA observed ZPMC qualified welding personnel identified as 215478 perform SMAW tack welding on weld joint identified as CB202C-016-004. ZPMC QC identified as Mr. Zheng Zhi Wei was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-P-2112.

Unless otherwise noted, all work observed on this date appeared to be in general compliance with the applicable contract documents.



Summary of Conversations:

As mentioned above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang (15000422372), who represents the Office of Structural Materials for your project.

WELDING INSPECTION REPORT

(Continued Page 5 of 5)

Inspected By:	Hall,Steven	Quality Assurance Inspector
Reviewed By:	Patterson,Rodney	QA Reviewer